



Dart Hawkesbury  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

649.4701  
Job Sheet 168566



Part No: 649.4701

Job Qty: 1 ea

Part Name: AW119 Cable Cutter System



Part Weight: 0 lbs

Status: Scheduled

Priority: High

Job Created: 11/17/17

Job Tracking No:

Due Date: 11/30/17

Created By: Mario Poulin

Type: SOLD

Description:

Customer: Agustawestland Philadelphia Corp (CAGUS02)

3050 Red Lion Road Philadelphia, PA, 19114 USA ph:(215) 281-1400 fx:(215) 281-0447.

Note: IPP REV:A 12.11.05 NEW ISSUE DD VERF:JLM IPP REV:B AS PER ECR 12-54 13-07-09 JLM VERIFIED  
BY:DD IPP REV:C 16.08.11 AS PER DWG REV.C DD VERF:JLM IPP REV:D 17.11.08 AS PER DWG  
REV.E2 DD VERF:JFS

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation          | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off       |
|-------|--------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|----------------|
|       |                    |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |                |
| 90    | Start up Operation | 1 Ea  |            | 11/30/17 | 0.00      | 0.00    | Start Up Stores/Pkg-1 |           | 2017-12-14 252 |
| 100   | Packaging          | 1 pcs |            | 11/30/17 | 0.00      | 0.00    | Packaging1            |           |                |
| 110   | QC                 | 1 pcs |            | 11/30/17 | 0.00      | 0.00    | QC4                   |           |                |
| 120   | Packaging          | 1 pcs |            | 11/30/17 | 0.00      | 0.00    | Packaging3            |           |                |
| 130   | QC21-FG            | 1 Ea  |            | 11/30/17 | 0.00      | 0.00    | QC21                  |           |                |

Fg102 sold

### Job Allocations

| Operation             | Component Part    | Required | Inventory | Allocated | Std Qty |
|-----------------------|-------------------|----------|-----------|-----------|---------|
| 90-Start up Operation | 600.1012 5027087  | 1        | 23        | 0         | 0       |
|                       | 601.2045 5021837  | 1        | 26        | 0         | 0       |
|                       | 601.3493 5021826  | 2        | 18        | 0         | 0       |
|                       | 646.9910 5021835  | 4        | 97        | 0         | 0       |
|                       | 647.9014 5021822  | 8        | 12        | 0         | 0       |
|                       | 649.4811 5021811  | 1        | 22        | 0         | 0       |
|                       | 649.4812 F1643A91 | 3        | 13        | 0         | 0       |
|                       | 649.4813 5021799  | 4        | 10        | 0         | 0       |
|                       | 649.4814 5021798  | 2        | 10        | 0         | 0       |
|                       | 649.4815 5016008  | 3        | 20        | 0         | 0       |
|                       | 649.4816 5021789  | 3        | 28        | 0         | 0       |
|                       | 649.4817 5021785  | 4        | 28        | 0         | 0       |
|                       | 649.4818 5021785  | 1        | 10        | 0         | 0       |
|                       | 649.4819 5021785  | 2        | 20        | 0         | 0       |
|                       | 649.4820 5021782  | 1        | 20        | 0         | 0       |
|                       | 649.4901 5021782  | 1        | 10        | 0         | 0       |
|                       | 649.4902 5021602  | 1        | 12        | 0         | 0       |
|                       | 649.5011 5021778  | 1        | 12        | 0         | 0       |
|                       | 649.5012 F108909  | 2        | 14        | 0         | 0       |
|                       | 649.5013 5021771  | 2        | 16        | 0         | 0       |
|                       | 649.5014 5021760  | 1        | 8         | 0         | 0       |
|                       | 649.5110 5021760  | 2        | 16        | 0         | 0       |
|                       | 649.5111 5021760  | 1        | 10        | 0         | 0       |
|                       | 649.5112 5021760  | 1        | 12        | 0         | 0       |
|                       | 649.5210 5021739  | 2        | 15        | 0         | 0       |

DAS- 646.5010 F109536 ✓  
10

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>             | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Cross tube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> |                                             |                                                                                                                                           | Skid-tube <input type="checkbox"/> | Cross tube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/>  | Machining <input type="checkbox"/>     | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/>  | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/>       | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>            | Large Fab <input type="checkbox"/>        | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |                                              |                                      |                                              |                                           |                                                |                                        |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                           |                                                                                                                                                                                                |                                             |                                               |                                         |                                            |                                     |                                  |                                 |                                  |                                           |
| Skid-tube <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Machining <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Small Fab <input type="checkbox"/>                                                                                                                                                             | Prod. 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Coord. <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Quality <input type="checkbox"/>            |                                                                                                                                           |                                    |                                     |                                    |                                       |                                        |                                    |                                            |                                   |                                        |                                          |                                              |                                           |                                           |                                    |                                   |                                              |                                      |                                              |                                           |                                                |                                        |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                           |                                                                                                                                                                                                |                                             |                                               |                                         |                                            |                                     |                                  |                                 |                                  |                                           |
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| Large Fab <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| <br><b>S026839</b><br><br><b>AW119 Cable Cutter System</b><br><br><b>PART NO:</b><br><b>Revision:</b><br><b>Operation:</b><br><b>Change No:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                | <br><b>Dart Aerospace Ltd.</b><br>1270 Aberdeen Street<br>Hawkesbury, ON K6A 1K7<br>CANADA<br>TEL.: 1 613 632-5200<br>Email: sales@dartaero.com<br>www.dartaerospace.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                             | Lead hand / Supervisor                                                                                                                    |                                    |                                     |                                    |                                       |                                        |                                    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| <b>Root Cause</b><br><table style="width:100%;"> <tr> <td>Environment <input type="checkbox"/></td> <td>No Re-verification <input type="checkbox"/></td> <td rowspan="12">           Cracks<br/>           Crimp/Kink/Ripple<br/>           Cuffs<br/>           Crushing<br/>           Heat Treat<br/>           Wave/Twist in Tube<br/>           Marks/Chatter<br/>           OTHER : <input type="checkbox"/> </td> </tr> <tr> <td>Design <input type="checkbox"/></td> <td>Operator <input type="checkbox"/></td> </tr> <tr> <td>Doc/Data <input type="checkbox"/></td> <td>Offset/Setup <input type="checkbox"/></td> </tr> <tr> <td>Equip/Tooling <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> </tr> <tr> <td>Handling/Pre <input type="checkbox"/></td> <td>Training <input type="checkbox"/></td> </tr> <tr> <td>Material <input type="checkbox"/></td> <td>Use for Testing <input type="checkbox"/></td> </tr> <tr> <td>Internal Transport <input type="checkbox"/></td> <td>Poor Information <input type="checkbox"/></td> </tr> <tr> <td>Tribal Knowledge <input type="checkbox"/></td> <td>Rushing <input type="checkbox"/></td> </tr> <tr> <td>LOA <input type="checkbox"/></td> <td>Product Improvement <input type="checkbox"/></td> </tr> <tr> <td>Substation: <input type="checkbox"/></td> <td>Process Improvement <input type="checkbox"/></td> </tr> <tr> <td>Past Expiry Date <input type="checkbox"/></td> <td>Manufacturing Process <input type="checkbox"/></td> </tr> <tr> <td>Misidentified <input type="checkbox"/></td> <td>Past Due <input type="checkbox"/></td> </tr> </table> |                                                                                                                                                                                                | Environment <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No Re-verification <input type="checkbox"/> | Cracks<br>Crimp/Kink/Ripple<br>Cuffs<br>Crushing<br>Heat Treat<br>Wave/Twist in Tube<br>Marks/Chatter<br>OTHER : <input type="checkbox"/> | Design <input type="checkbox"/>    | Operator <input type="checkbox"/>   | Doc/Data <input type="checkbox"/>  | Offset/Setup <input type="checkbox"/> | Equip/Tooling <input type="checkbox"/> | Supplier <input type="checkbox"/>  | Handling/Pre <input type="checkbox"/>      | Training <input type="checkbox"/> | Material <input type="checkbox"/>      | Use for Testing <input type="checkbox"/> | Internal Transport <input type="checkbox"/>  | Poor Information <input type="checkbox"/> | Tribal Knowledge <input type="checkbox"/> | Rushing <input type="checkbox"/>   | LOA <input type="checkbox"/>      | Product Improvement <input type="checkbox"/> | Substation: <input type="checkbox"/> | Process Improvement <input type="checkbox"/> | Past Expiry Date <input type="checkbox"/> | Manufacturing Process <input type="checkbox"/> | Misidentified <input type="checkbox"/> | Past Due <input type="checkbox"/> | <table style="width:100%;"> <tr> <td><input type="checkbox"/> Positioned Wrong</td> <td rowspan="10"> <b>Start up Operation</b><br/> <div style="border: 1px solid black; padding: 5px; transform: rotate(-5deg); display: inline-block;"> <b>Mfg Date: 12/22/17</b><br/> <b>Job No: 168566</b> </div> </td> </tr> <tr> <td><input type="checkbox"/> Outside Dimensions</td> </tr> <tr> <td><input type="checkbox"/> Over/Under tolerance</td> </tr> <tr> <td><input type="checkbox"/> Part Incorrect</td> </tr> <tr> <td><input type="checkbox"/> Part Lost/Missing</td> </tr> <tr> <td><input type="checkbox"/> Part Moved</td> </tr> <tr> <td><input type="checkbox"/> Drawing</td> </tr> <tr> <td><input type="checkbox"/> Finish</td> </tr> <tr> <td><input type="checkbox"/> Misread</td> </tr> <tr> <td><input type="checkbox"/> Turning Sequence</td> </tr> </table> |  | <input type="checkbox"/> Positioned Wrong | <b>Start up Operation</b><br><div style="border: 1px solid black; padding: 5px; transform: rotate(-5deg); display: inline-block;"> <b>Mfg Date: 12/22/17</b><br/> <b>Job No: 168566</b> </div> | <input type="checkbox"/> Outside Dimensions | <input type="checkbox"/> Over/Under tolerance | <input type="checkbox"/> Part Incorrect | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Part Moved | <input type="checkbox"/> Drawing | <input type="checkbox"/> Finish | <input type="checkbox"/> Misread | <input type="checkbox"/> Turning Sequence |
| Environment <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Design <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| Equip/Tooling <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Handling/Pre <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| Material <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Use for Testing <input type="checkbox"/>                                                                                                                                                       |                                                                                                                                                                                                                                  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| Internal Transport <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Poor Information <input type="checkbox"/>                                                                                                                                                      |                                                                                                                                                                                                                                  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| Tribal Knowledge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| LOA <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| Substation: <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Past Expiry Date <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| Misidentified <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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               |                                 |                                  |                                           |
| <input type="checkbox"/> Positioned Wrong                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Start up Operation</b><br><div style="border: 1px solid black; padding: 5px; transform: rotate(-5deg); display: inline-block;"> <b>Mfg Date: 12/22/17</b><br/> <b>Job No: 168566</b> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                             |                                                                                                                                           |                                    |                                     |                                    |                                       |                                        |                                    |                                            |                                   |                                        |                                          |                                              |                                           |                                           |                                    |                                   |                                              |                                      |                                              |                                           |                                                |                                        |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                           |                                                                                                                                                                                                |                                             |                                               |                                         |                                            |                                     |                                  |                                 |                                  |                                           |
| <input type="checkbox"/> Outside Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| <input type="checkbox"/> Over/Under tolerance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| <input type="checkbox"/> Part Incorrect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| <input type="checkbox"/> Part Lost/Missing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| <input type="checkbox"/> Part Moved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| <input type="checkbox"/> Drawing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| <input type="checkbox"/> Finish                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| <input type="checkbox"/> Misread                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| <input type="checkbox"/> Turning Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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|-----------------|-------------|------|-------|---------|---|
| 649.5211        | 5021737     | 1 ✓  | 15    | 0       | 0 |
| 649.5212        | 5021736     | 1 ✓  | 5     | 0       | 0 |
| 649.5213        | 5021735     | 2 ✓  | 13    | 0       | 0 |
| 649.5214        | 5021734     | 1 ✓  | 5     | 0       | 0 |
| 91420A230       | 5021733     | 13 ✓ | 61    | 0       | 0 |
| AN3C12A         | 5021381     | 8 ✓  | 148   | 0       | 0 |
| AN4C5A          | 5021382x3   | 4 ✓  | 28    | 0       | 0 |
| AN4C7A          | 5021380     | 2 ✓  | 111   | 0       | 0 |
| AN970-3         | 5021379     | 2 ✓  | 237   | 0       | 0 |
| CR3213-4-05     | 5021376     | 24 ✓ | 262   | 0       | 0 |
| CR3213-5-03     | 5021375     | 8 ✓  | 100   | 0       | 0 |
| MS20426AD3-4    | 5021374     | 32 ✓ | 6,791 | 0       | 0 |
| MS20426AD3-5    | 5021373     | 6 ✓  | 8,810 | 0       | 0 |
| MS20426AD4-4    | 5021364     | 4 ✓  | 2,072 | 0       | 0 |
| MS20470AD4-3    | 5021263     | 23 ✓ | 1,275 | 0       | 0 |
| MS20470AD5-11   | 5021262     | 10 ✓ | 1,008 | 0       | 0 |
| MS21042-4       | 5021261     | 2 ✓  | 0     | 0       | 0 |
| MS21042L08      | 5021260     | 9 ✓  | 1,065 | 0       | 0 |
| MS21042L3       | 5021259     | 22 ✓ | 1,093 | 0       | 0 |
| MS21042L4       | 5021258     | 4 ✓  | 1,202 | 0       | 0 |
| MS21059-3       | 5021257     | 3 ✓  | 406   | 0       | 0 |
| MS21069-08      | 5005689 114 | 20 ✓ | 74    | 0       | 0 |
| MS24694-C57     | 5017620     | 2 ✓  | 44    | 0       | 0 |
| MS24694-S58     | 5017619     | 2 ✓  | 41    | 0       | 0 |
| MS27039-08-13   | 5017617     | 12 ✓ | 161   | 0       | 0 |
| MS27039-08-19   | 5017616     | 26 ✓ | 822   | 0       | 0 |
| MS27039-08-24   | 5017615     | 3 ✓  | 115   | 0       | 0 |
| MS27039-1-08    | 5017613     | 4 ✓  | 432   | 0       | 0 |
| MS27039-1-10    | 5017612     | 6 ✓  | 483   | 0       | 0 |
| MS27039-1-13    | 5017611     | 13 ✓ | 463   | 0       | 0 |
| MS27039-1-14    | 5017179     | 4 ✓  | 558   | 0       | 0 |
| MS27039-1-18    | 5017178     | 4 ✓  | 1,441 | 0       | 0 |
| MS27039-1-25    | 5017177     | 2 ✓  | 108   | 0       | 0 |
| NAS1097AD-4-3   | 5017176     | 2 ✓  | 4,335 | 0       | 0 |
| NAS1149CN832R   | 5017037     | 48 ✓ | 225   | 0       | 0 |
| NAS1149F0332P   | 5017035     | 53 ✓ | 2,494 | 0       | 0 |
| NAS1149F0363P   | 5017034     | 16 ✓ | 153   | 0       | 0 |
| NAS1149F0432P   | 5017033     | 8 ✓  | 887   | 0       | 0 |
| NAS1149FN832P   | 5017032     | 23 ✓ | 3,740 | 0       | 0 |
| NAS1832-3-7     | 5017009     | 8 ✓  | 222   | 0       | 0 |
| NAS1832-4-7     | 5017001     | 2 ✓  | 40    | 0       | 0 |
| NAS1834C3-300   | 5016998     | 2 ✓  | 158   | 0       | 0 |
| NAS620C-10L     | 5016996     | 8 ✓  | 205   | 0       | 0 |
| NAS1330S08KBI06 | 501487x2    | 16 ✓ | 14 ✓  | 5022272 |   |
| NAS9303B        | 501477      | 14 ✓ |       |         |   |

Specifications could not be found.

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                          |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                     |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                         | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                             |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| <b>Root Cause</b><br><div style="display: flex;"> <div style="width: 50%;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="width: 50%;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Wave/Twist in Tube<br><input type="checkbox"/> Marks/Chatter |  | <b>FAULT CATEGORY</b><br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Drill Holes                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | <input type="checkbox"/> Power Loss/Surge<br><input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Fit/Function<br><input type="checkbox"/> Misaligned/off center |                                                                                                                                                     | <input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Turning Sequence |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | <input type="checkbox"/> OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |



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# NOTES:

- 1 APPLY F/N 62 TO FAYING SURFACES.
- 2 AFTER INSTALLATION, APPLY F/N 63 A/R TO FILL GAPS AND FILLET EDGES
- 3 MATCH DRILL HOLE ON TAB OF F/N 13 TO FIT RIVET F/N 45
- 4 REQUIRED QTY  
F/N 12: 1  
F/N 15: 2  
F/N 17: 1  
INSTALL EXTRA AS NEEDED
- 5 INSTALL ONLY IF REQUIRED

3/B7

DETAIL B

5/B6

DETAIL D

4/B7

DETAIL C

DETAIL A

2/B7

UNINCORPORATED ECN(S)

05856, 05875

| REV. | DESCRIPTION                                 | DATE     | APPROVED |
|------|---------------------------------------------|----------|----------|
| 1    | LAST PRODUCTION REVISION P12                |          |          |
| M/C  | ISSUE RELEASE                               | 01-26-12 | P. BRAVO |
| A    | INCORPORATED ECN 03444, 03489               | 04-17-12 | P. BRAVO |
| B    | INCORPORATED ECN 03527                      | 05-29-12 | P. BRAVO |
| C    | INCORPORATED ECN 03732, 03865, 04484, 05503 | 07-26-16 | P. BRAVO |
| D    | INCORPORATED ECN 05731                      | 04-04-17 | P. BRAVO |
| E    | INCORPORATED ECN 05818                      | 08-02-17 | P. BRAVO |

|      |        |          |                |                |       |
|------|--------|----------|----------------|----------------|-------|
| 4    | 27     | 601.4085 | RIVET          | NAS93038-5-03  |       |
| 4    | 76     | 601.3322 | RIVET          | MS20426AD4     |       |
| 16   | 75     | 601.4084 | RIVNUT         | NAS1330508K106 |       |
| 2    | 74     | 649.4819 | SHIM           |                |       |
| 1    | 73     | 649.4818 | SHIM           |                |       |
| 32   | 72     | 601.1983 | NUTPLATE RIVET | MS20426AD3     |       |
| 20   | 71     | 601.4083 | NUTPLATE       | MS21049L08     |       |
| 48   | 70     | 601.1869 | WASHER         | NAS1149CN832P  |       |
| 12   | 69     | 601.2988 | SCREW          | MS27039-0813   |       |
| 20   | 68     | 601.2765 | SCREW          | MS27039-0819   |       |
| 4    | 67     | 649.4817 | SHIM           |                |       |
| 16   | 66     | 601.3151 | WASHER         | NAS1149F0343P  |       |
| 65   |        |          | DELETED        |                |       |
| 64   |        |          | DELETED        |                |       |
| 1    | 63     | 600.1012 | SEALANT        | PR-1425 CLAS B |       |
| 1    | 62     | 601.2045 | RTV            | LOCTITE 598    |       |
| 8    | 61     | 601.2381 | WASHER         | NAS600C-10L    |       |
| 8    | 60     | 601.2638 | WASHER         | NAS1149F0432P  |       |
| 18   | 59     | 601.2764 | WASHER         | NAS1149F0832P  |       |
| 53   | 58     | 601.1607 | WASHER         | NAS1149F0332P  |       |
| 2    | 57     | 601.3470 | WASHER         | AN970-3        |       |
| 6    | 56     | 601.1365 | SCREW          | MS27039-1-10   |       |
| 4    | 55     | 601.1621 | SCREW          | MS27039-1-08   |       |
| 2    | 54     | 601.3289 | SCREW          | MS27039-1-25   |       |
| 6    | 53     | 601.2765 | SCREW          | MS27039-0819   |       |
| 13   | 52     | 601.3190 | SCREW          | MS27039-1-13   |       |
| 3    | 51     | 601.3124 | SCREW          | MS27039-0824   |       |
| 4    | 50     | 601.1622 | SCREW          | MS27039-1-14   |       |
| 4    | 49     | 601.2910 | SCREW          | MS27039-1-18   |       |
| 1    | 48     | 601.3252 | SCREW          | MS2469558      |       |
| 47   |        |          | DELETED        |                |       |
| 2    | 46     | 601.3146 | SCREW          | MS2469AC57     |       |
| 4701 | FIND # | PART #   | DESCRIPTION    | MAT'L          | SPEC. |

|      |        |          |                        |               |       |
|------|--------|----------|------------------------|---------------|-------|
| 2    | 45     | 601.1125 | RIVET                  | MS20470AD5-11 |       |
| 45   |        |          | DELETED                |               |       |
| 43   |        |          | DELETED                |               |       |
| 23   | 42     | 601.1773 | RIVET                  | MS20470AD4-3  |       |
| 12   | 41     | 601.1616 | RIVET                  | MS20426AD3-5  |       |
| 6    | 40     | 601.1900 | NUTPLATE               | MS21059-3     |       |
| 1    | 39     | 601.3209 | LOCKNUT                | MS21042L4     |       |
| 25   | 38     | 601.1624 | LOCKNUT                | MS21042L3     |       |
| 9    | 37     | 601.1541 | LOCKNUT                | MS21042L08    |       |
| 2    | 36     | 601.3008 | INSERT                 | NAS1834C-300  |       |
| 2    | 35     | 601.3468 | INSERT                 | NAS1832-4-7   |       |
| 8    | 34     | 601.3459 | INSERT                 | NAS1832-3-7   |       |
| 33   |        |          | DELETED                |               |       |
| 13   | 32     | 601.4061 | SCREW                  | 91420A730     | DNV65 |
| 31   |        |          | DELETED                |               |       |
| 24   | 30     | 601.1183 | CHERRY RIVET           | CR3213-4-05   |       |
| 29   |        |          | DELETED                |               |       |
| 8    | 28     | 601.2020 | CHERRY RIVET           | CR3213-5-03   |       |
| 27   |        |          | DELETED                |               |       |
| 2    | 26     | 601.2669 | BOLT                   | ANAC7A        |       |
| 4    | 25     | 601.3555 | BOLT                   | ANAC5A        |       |
| 8    | 24     | 601.0788 | BOLT                   | ANAC12A       |       |
| 1    | 23     | 649.5112 | WIPER DEFLECTOR        |               |       |
| 1    | 22     | 649.5111 | WIPER DEFLECTOR        |               |       |
| 2    | 21     | 649.5110 | WIPER DEFLECTOR        |               |       |
| 8    | 20     | 647.9014 | STRUT BRACKET          |               |       |
| 4    | 19     | 646.9910 | STRUT                  |               |       |
| 3    | 18     | 649.4815 | SHIM                   |               |       |
| 3    | 17     | 649.4812 | SHIM                   |               |       |
| 2    | 16     | 649.5213 | DOUBLER                |               |       |
| 4    | 15     | 649.4813 | SHIM                   |               |       |
| 1    | 14     | 649.5211 | SHIM                   |               |       |
| 2    | 13     | 601.3493 | QUICK RELEASE PIN      |               |       |
| 3    | 12     | 649.4816 | DOUBLER                |               |       |
| 2    | 11     | 649.4814 | DOUBLER                |               |       |
| 2    | 10     | 649.5210 | DOUBLER                |               |       |
| 1    | 9      | 649.5011 | DEFLECTOR              |               |       |
| 2    | 8      | 649.5013 | DEFLECTOR              |               |       |
| 2    | 7      | 649.5012 | DEFLECTOR              |               |       |
| 1    | 6      | 649.4811 | CLIP                   |               |       |
| 1    | 5      | 649.5212 | BRACKET                |               |       |
| 1    | 4      | 649.5214 | BRACKET                |               |       |
| 1    | 3      | 649.5010 | DEFLECTOR              |               |       |
| 1    | 2      | 649.4901 | UPPER CUTTER ASSY      |               |       |
| 1    | 1      | 649.4902 | LOWER CUTTER ASSY      |               |       |
| 1    |        | 649.4701 | A119 CABLE CUTTERS KIT |               |       |
| 4701 | FIND # | PART #   | DESCRIPTION            | MAT'L         | SPEC. |

QTY

NEXT ASSY (S)

ORIGINAL DATE: 04-12-2012  
DRAWN BY: S. COCHRAN  
CHECKED BY: P. BRAVO  
DRAWING APPROVAL: P. BRAVO  
DATE: 04-12-2012  
CONTRACT NO:

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
TOLERANCES ARE:  
2 PLACE DECIMALS: ±.010  
3 PLACE DECIMALS: ±.005  
ANGLES: ±.5°

APICAL INDUSTRIES INC.  
DBA DART AEROSPACE

3030 ENTERPRISE CT.,  
SUITE A  
VISTA, CA. 92081  
(760)-724-5300

A119 CABLE CUTTERS KIT

REV. E

SCALE: NONE

SHEET 1 OF 5



APICAL INDUSTRIES, INC.  
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05856

SHEET 1 OF 2

DWG NO. 649.4700

REV: E

PREPARED BY J. BECKER

DATE: 09/06/17

EFFECT ON DWG  
☐ INC. ☒ UNINC.

DWG TITLE: A119 CABLE CUTTERS KIT

APPROVED BY: ENGR *[Signature]*

MFG *[Signature]*

QC *[Signature]*

EFF. NEXT ORDER

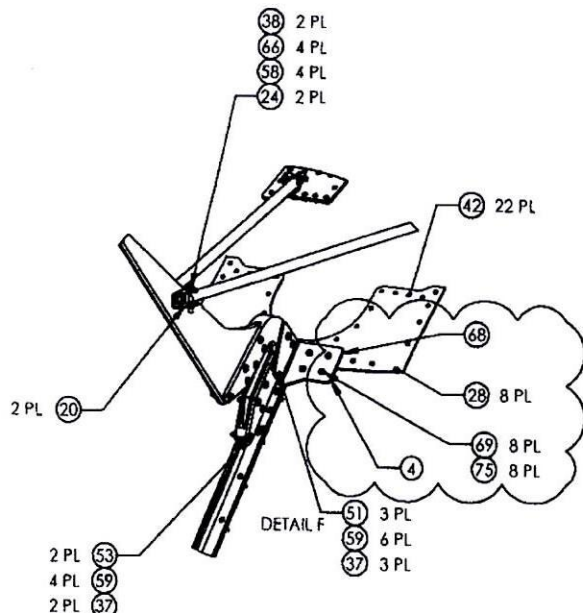
TRANSACTION CODES (TC):  
A-ADD C-CREATE  
R-REVISE D-DELETE

REASON: REVISED P/N'S.

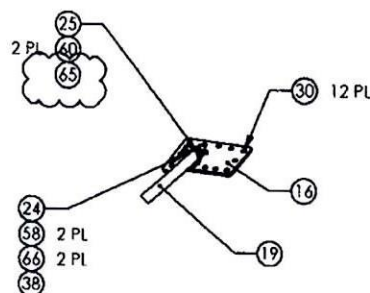
ECR: N/A

ACTION ITEM:  
1. SEND UPDATED  
DRAWINGS TO  
HAWKESBURY

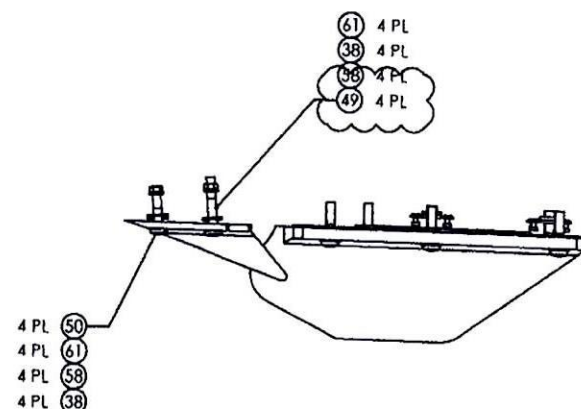
### SHEET 2 ZONE C7 IS:



### SHEET 2 ZONE A1 IS:



### SHEET 5 ZONE C7 IS:



|     |    |             |     |                |              |               |
|-----|----|-------------|-----|----------------|--------------|---------------|
| 76  | R  | 600.0846    | 4   | RIVET          | MS20426AD4-4 |               |
| 72  | R  | 601.1710    | 32  | NUTPLATE RIVET | MS20426AD3-4 |               |
| 69  | R  | 601.2988    | 12  | SCREW          | MS27039-0813 |               |
| 68  | R  | 649.4820    | 1   | SHIM           |              |               |
| 65  | R  | 601.1887    | 3   | NUT            | MS21042-4    |               |
| 53  | R  | 601.2765    | 26  | SCREW          | MS27039-0819 |               |
| 48  | R  | 601.3252    | 2   | SCREW          | MS2469S58    |               |
| 41  | R  | 601.1616    | 6   | RIVET          | MS20426AD3-5 |               |
| 40  | R  | 601.1900    | 3   | NUTPLATE       | MS21059-3    |               |
| 38  | R  | 601.1624    | 22  | LOCKNUT        | MS21042L3    |               |
| F/N | TC | PART NUMBER | QTY | DESCRIPTION    | MATERIAL     | SPECIFICATION |

DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☒ INSTALL INSTRUCTIONS ☒ ICA ☐ FMS ☒ BOM

CHANGE CATEGORY  
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED  
☐ YES ☒ NO





APICAL INDUSTRIES, INC.  
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05875

SHEET 1 OF 1

DWG NO. 649.4700

REV: E

PREPARED  
BY

A. QUAN

DATE: 10/24/17

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: A119 CABLE CUTTERS KIT

APPROVED BY:

ENGR

MFG

EFF.

NEXT ORDER

TRANSACTION CODES (TC):  
A-ADD C-CREATE  
R-REVISE D-DELETE

REASON: REVISED P/N'S.

ECR:

17-126

ACTION ITEM:

1. SEND UPDATED  
DRAWINGS TO  
HAWKESBURY

REFERENCE ONLY

|                                                                                                                                                                                                               |    |             |     |      |             |                                                                          |                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------|-----|------|-------------|--------------------------------------------------------------------------|---------------------------------------------------------------------|
| 36                                                                                                                                                                                                            | R  | 601.3008    | 2   | 4701 | INSERT      | NAS1834C3-300                                                            |                                                                     |
| F/N                                                                                                                                                                                                           | TC | PART NUMBER | QTY |      | DESCRIPTION | MATERIAL                                                                 | SPECIFICATION                                                       |
| DOCUMENTS EFFECTED:                                                                                                                                                                                           |    |             |     |      |             | CHANGE CATEGORY                                                          | DER REVIEW REQUIRED                                                 |
| <input type="checkbox"/> PATTERN <input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUCTIONS <input type="checkbox"/> ICA <input type="checkbox"/> FMS <input checked="" type="checkbox"/> BOM |    |             |     |      |             | <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |